

Service Manual

PL-601 Semi-Automatic Turntable

PL-701 Full-Automatic Turntable

Specifications

PL-601		PL-701	
Platter drive system	Belt drive	Platter drive system	Belt drive
Insulation	Double floating	Insulation	Double floating
Motor	FG servo DC motor	Motor	FG servo DC motor
Platter diameter/thickness	12" x 1-3/16"	Platter diameter/thickness	12" x 1-3/16"
Platter weight	2.2 lbs.	Platter weight	3.3 lbs.
Platter mat weight	0.6 lbs.	Platter mat weight	0.6 lbs.
Speed	33 or 45 rpm	Speed	33 or 45 rpm
Speed adjustment range	± 3%	Speed adjustment range	± 3%
Wow and flutter	0.035% nominal	Wow and flutter	0.03% nominal
S/N	68 dB DIN B nominal	S/N	70 dB DIN B nominal
Tone arm effective length	8-15/32"	Tone arm effective length	8-15/32"
Overhang	19/32"	Overhang	19/32"
Tracking error	less than ± 2°	Tracking error	less than ± 2°
Recommended stylus pressure	0 – 3g (with cartridge weight 3.5 – 10g) 0 – 2.5g (with cartridge weight 3 – 3.5g)	Recommended stylus pressure	0 – 3g (with cartridge weight 3.5 – 10g) 0 – 2.5g (with cartridge weight 3 – 3.5g)
Recommended cartridge weight	3 – 10g	Recommended cartridge weight	3 – 10g
Headshell	Carbon fibre (removable)	Headshell	Carbon fibre (removable)
Arm control	Electronic sensing CPU	Arm control	Electronic sensing CPU fully automatic
Sub chassis	Ceramic compound resin (CCR)	Sub chassis	Ceramic compound resin (CCR)
AC power requirement	120V 60 Hz	AC power requirement	120V 60 Hz
Power consumption	10W	Power consumption	10W
Dimensions	18-1/8" width 6" height with dust cover attached and closed 15-3/8" depth with dust cover closed	Dimensions	18-1/8" width 6" height with dust cover attached and closed 15-3/8" depth with dust cover closed
Weight	17 lbs 14 oz (8.6 kg)	Weight	18 lbs 15 oz



1. ADJUSTMENT

A. Turntable height adjustment

1. Put the rubber mat and the disc stabilizer on the turntable.
2. Keep the space between the base and the turntable platter $1/8''$ to $5/32''$ (3.0 to 4.0mm) by turning screws 1, 2 and 3 through the holes of the platter.

Note: Turn up the mat when turning the screws.

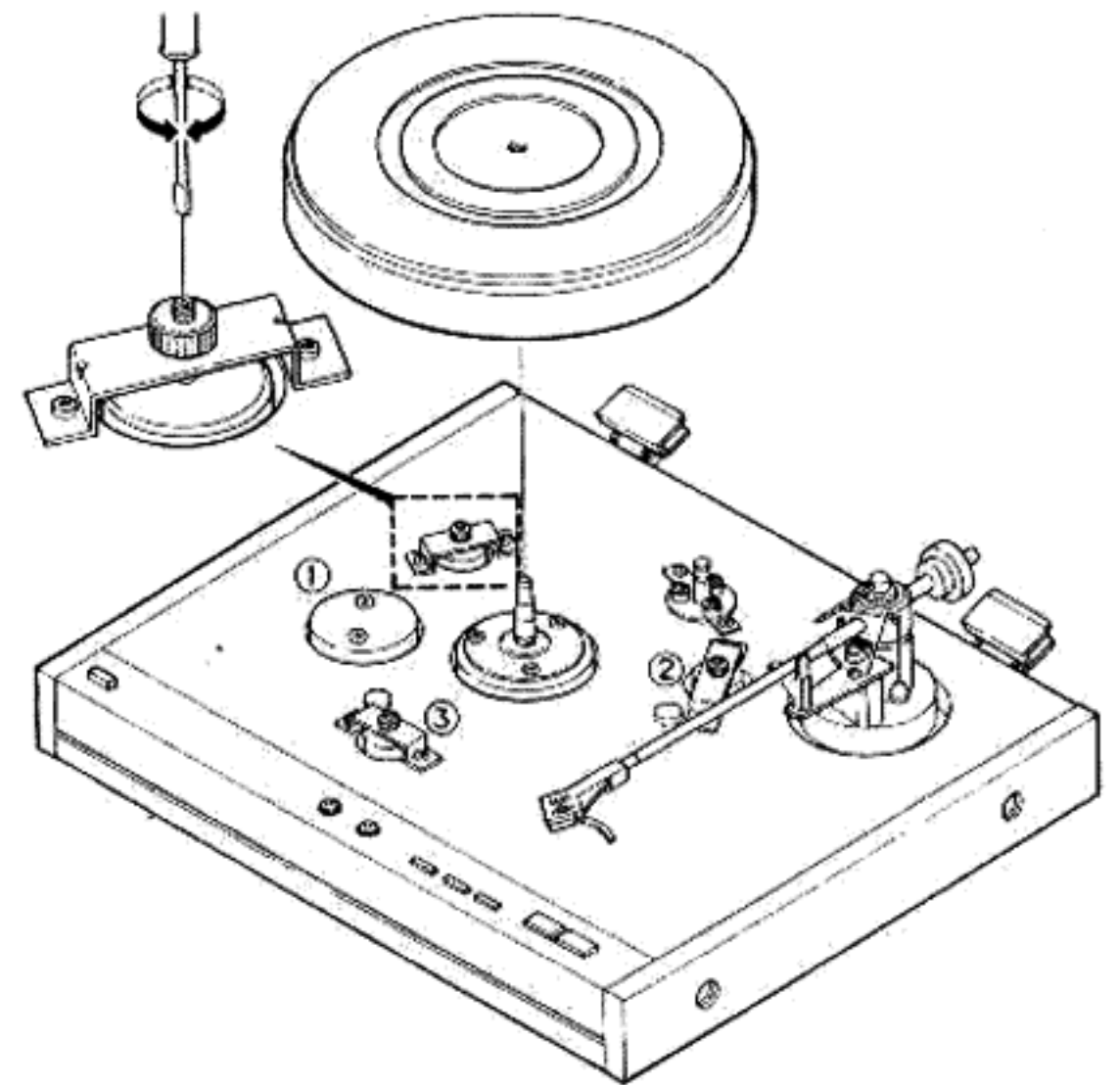
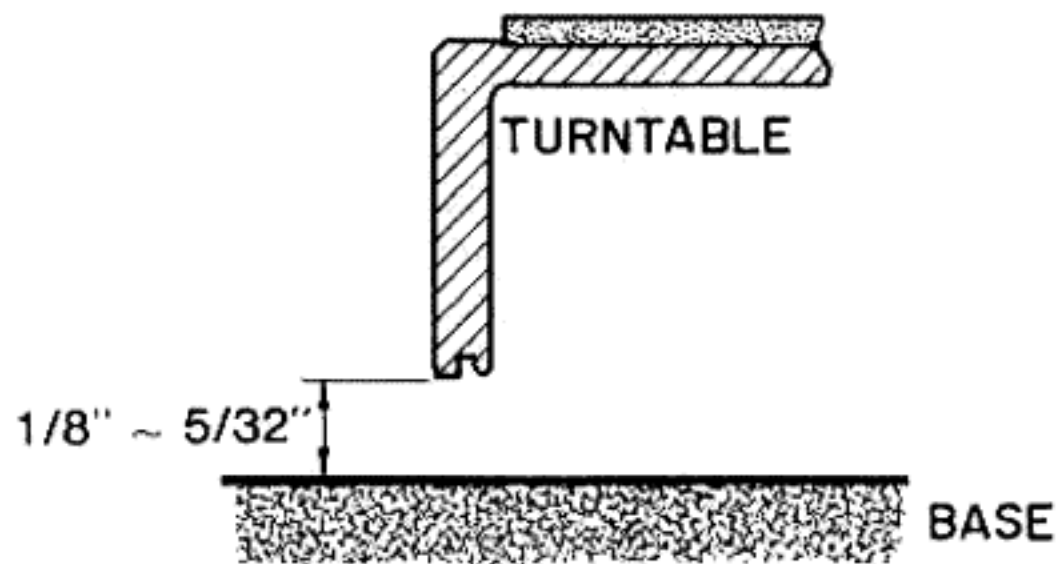


Figure-1

B. Tone arm adjustment

1. Turn the POWER switch on.
2. Put a record and the rubber mat on the turntable.
3. Push the UP/DOWN button and move the tone arm off the tone arm rest.
3. Turn the screw of the arm lift to make the distance from the stylus tip to the record $1/4''$ to $5/16''$ (6 to 7mm).

Note: Use a U-shaped screwdriver to turn the screw.

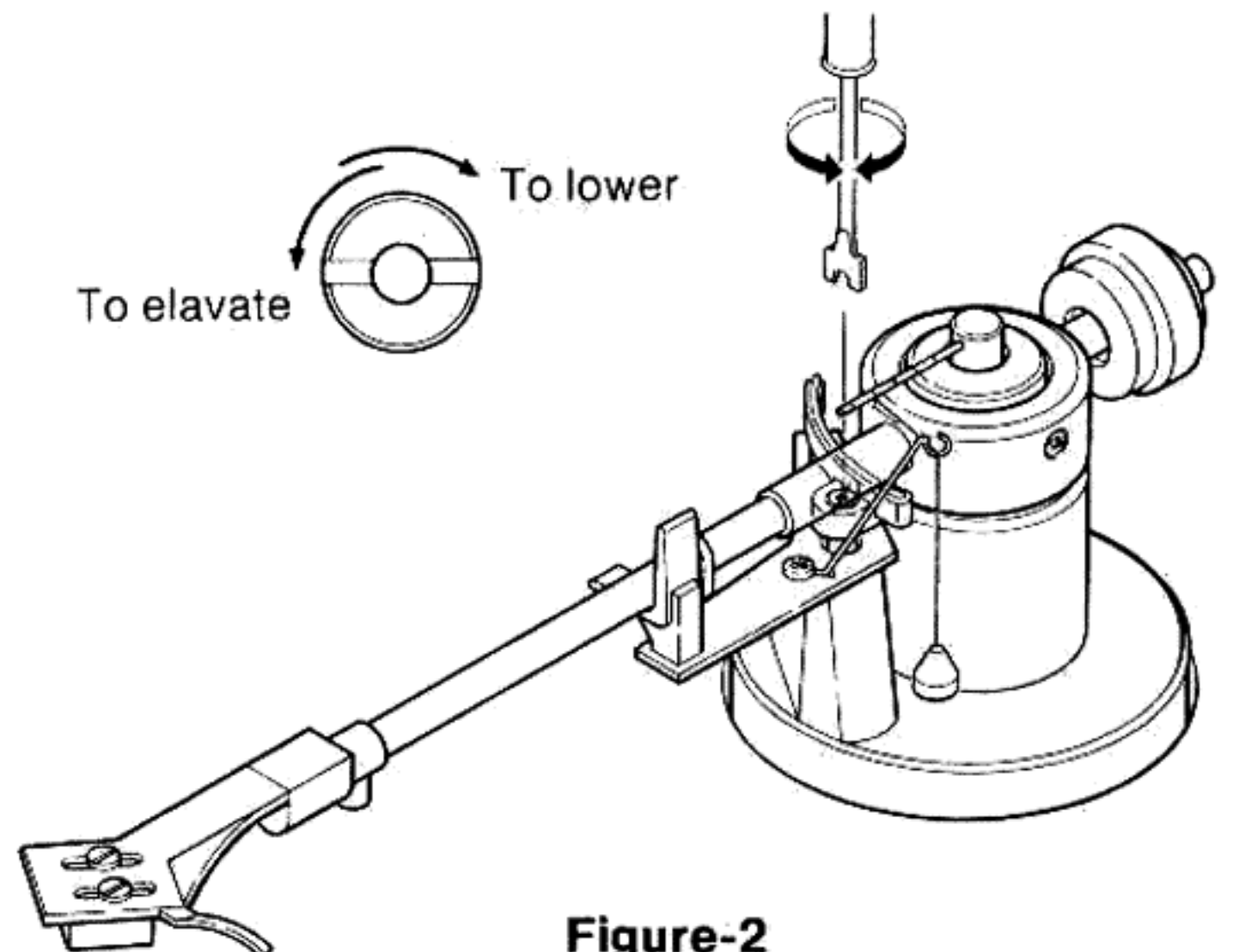


Figure-2

C. Speed adjustment

1. Remove the bottom cover.
2. Put the unit on stands as shown in figure-3. (This is to gain access to the control PWB.)
3. Turn the POWER switch on.
4. Put a record and the disc stabilizer on the turntable.
5. Set the two SPEED ADJ knobs on the front panel to 12 o'clock position.
6. Select 33 rpm and start playing the disc.
7. Adjust VR101 (PL-601) or VR103 (PL-701) on the Control PWB inside the unit for correct rotation speed by using a stroboscope.
6. Select 45 rpm speed and start playing the disc.
7. Adjust VR102 (PL-601) or VR104 (PL-701) on the Control PWB inside the unit for correct rotation speed by using a stroboscope.

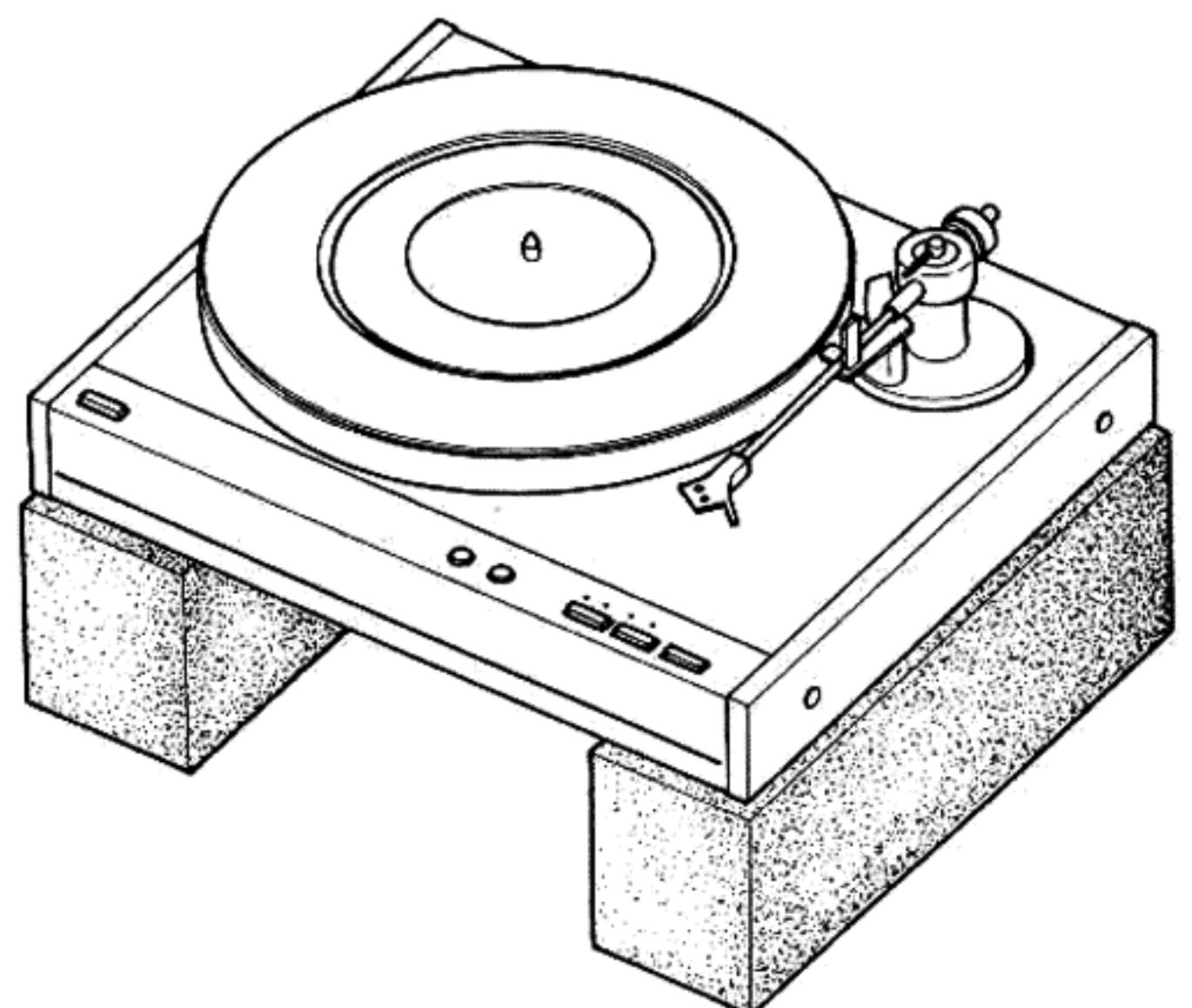


Figure-3

1. ADJUSTMENT

D. Automatic lead-in adjustment (PL-701)

1. Set the unit to the same condition as step 1 – 3 in Speed adjustment. (Note that this adjustment can be made through a hole of the bottom cover.)
2. Put a record on the turntable.
2. Push the START button.
3. Turn the offset-screw of the tone arm base (shown in figure-4) to make the stylus tip land on the area $6-39/64''$ to $6-49/64''$ (168 to 172mm) for 7" size, $11-17/32''$ to $11-21/32''$ (292.6 to 296mm) for 12" size from the spindle of the turntable.

E. Automatic return (lift) adjustment

1. Put a record on the turntable.
2. Select 33 rpm speed and start playing. Place the tone arm on the silent end of the record.
3. Turn the offset-screw (shown in figure-4) of the tone arm base to make the tone arm returns (is lifted) in the area $3-55/64''$ to $4-1/16''$ (98 to 103.2mm) (for 7" size), $4-9/32''$ to $4-31/64''$ (108.6 to 113.8mm) (for 12" size) from the spindle of the turntable.

F. Offset voltage adjustment (PL-701)

1. Turn the POWER switch on.
2. Leave the tone arm on the rest.
3. Connect 2-pin and 7-pin of CNP104 on the Control PWB (inside the unit).
4. Adjust VR101 on the Control PWB to keep the voltage between pin-1 and pin-3 of CNP104 $-0.2V$ to $0V$.
5. After completing above, open between 2-pin and 7-pin of CNP104.

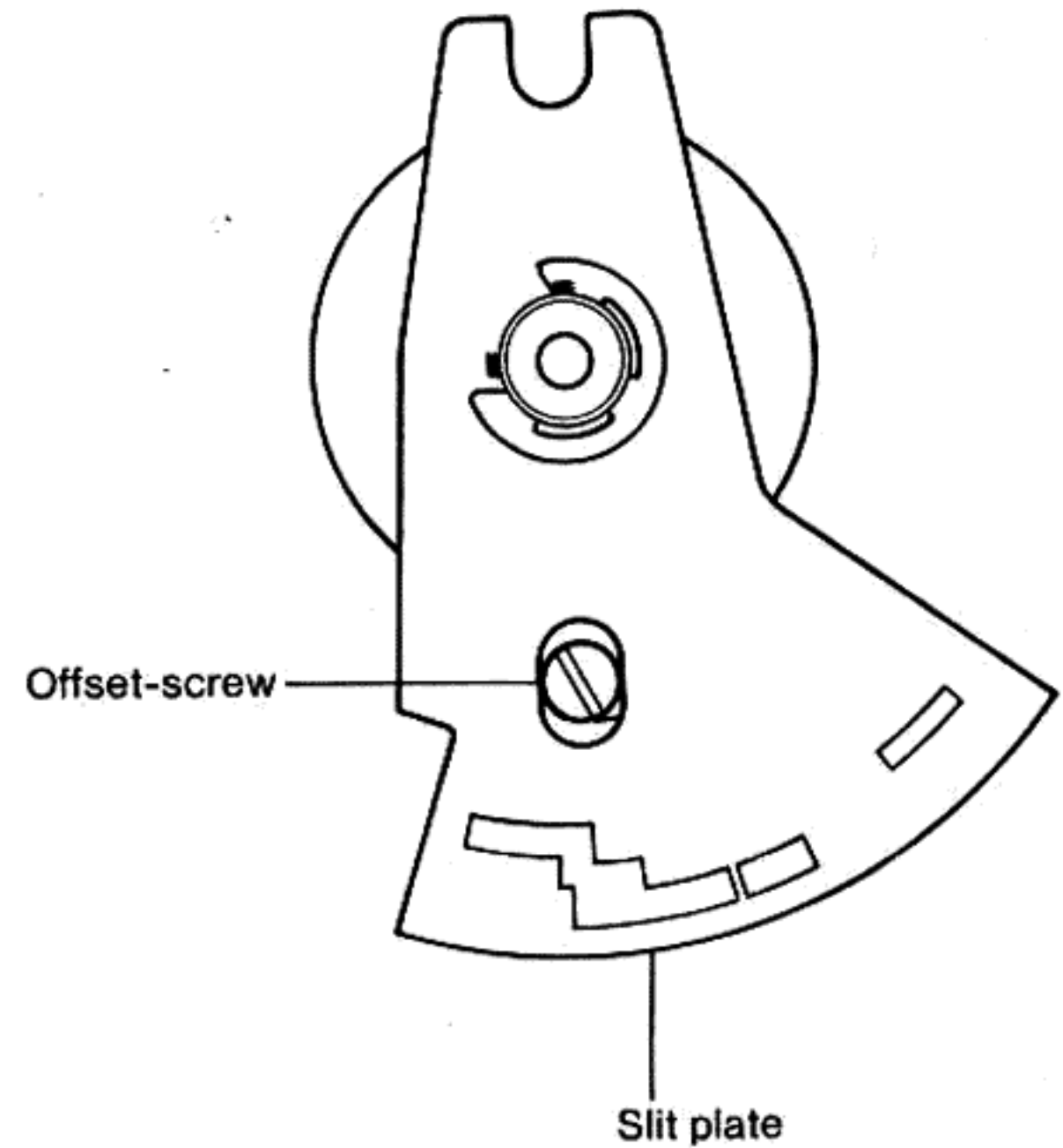
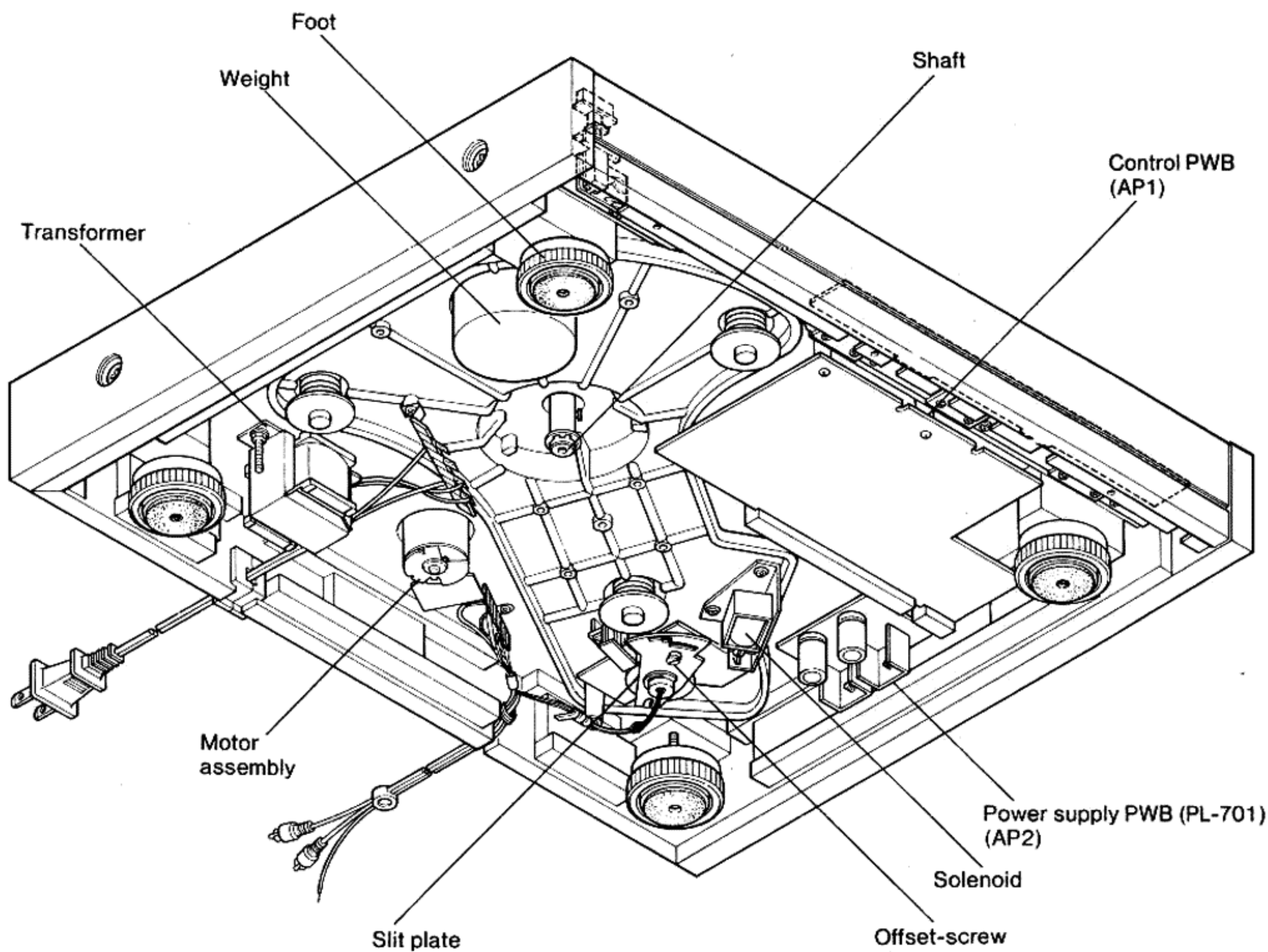
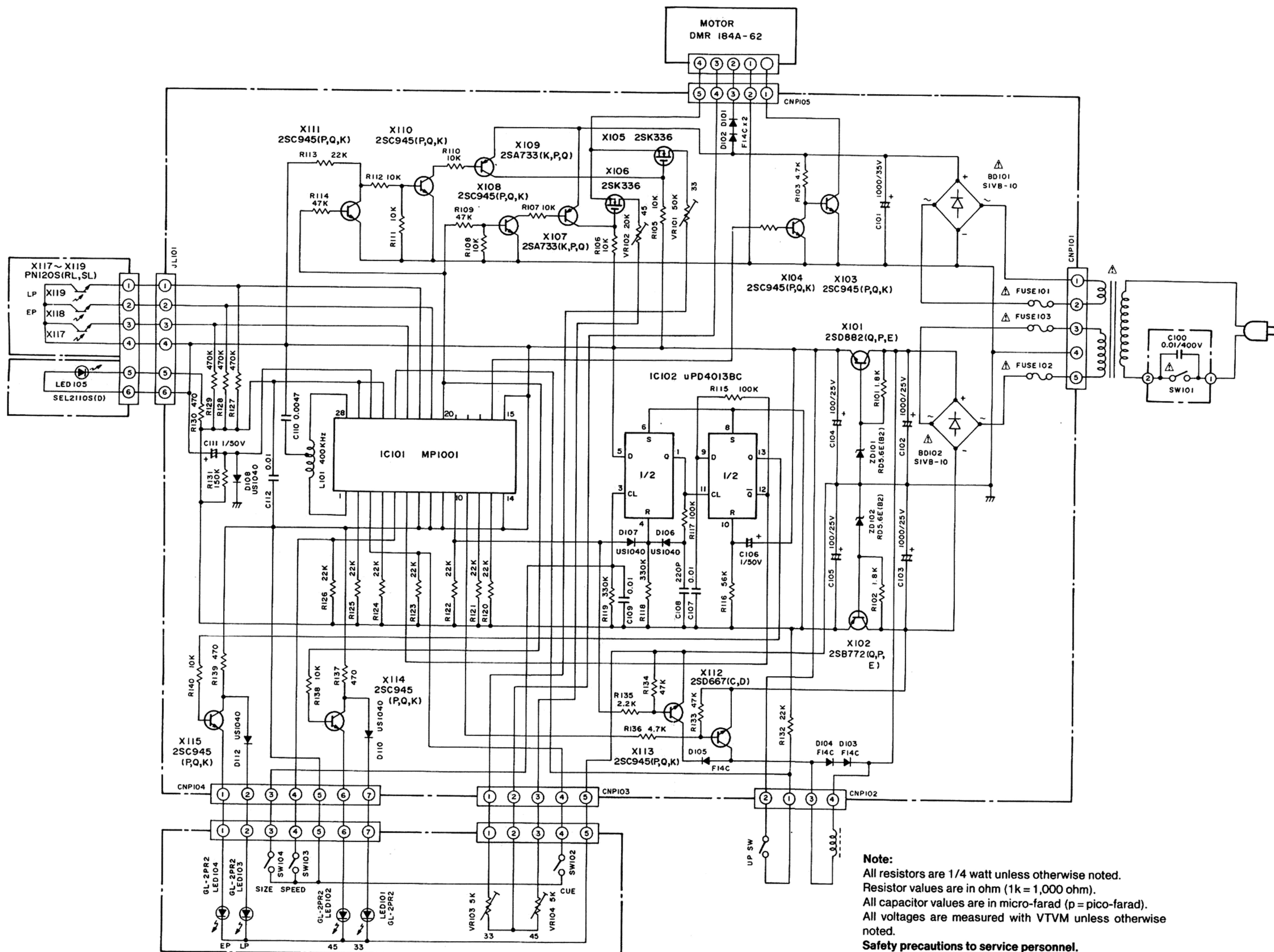


Figure-4

2. PARTS LOCATION



4. SCHEMATIC

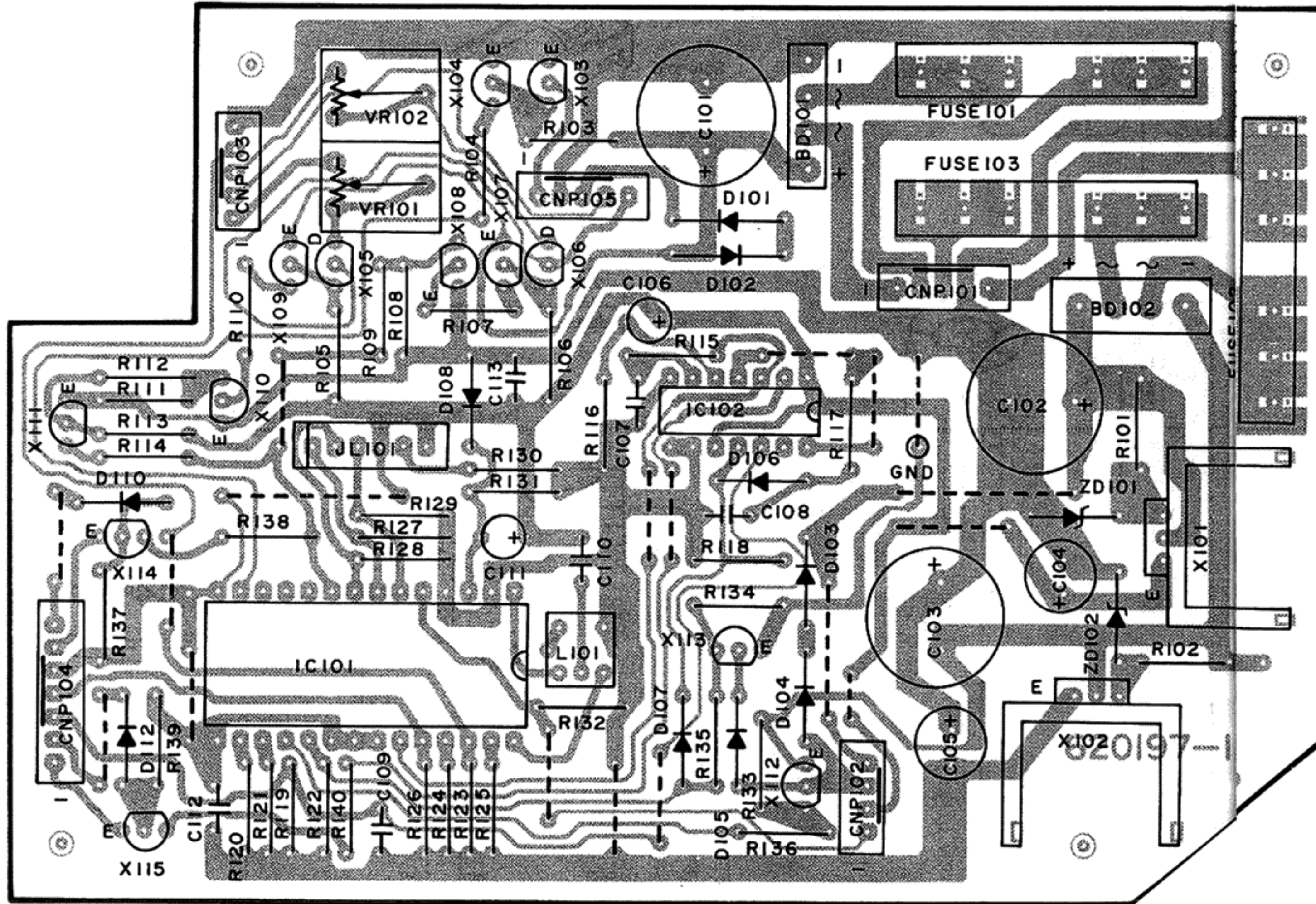
**Note:**

All resistors are 1/4 watt unless otherwise noted.
 Resistor values are in ohm (1k = 1,000 ohm).
 All capacitor values are in micro-farad (p = pico-farad).
 All voltages are measured with VTVM unless otherwise noted.

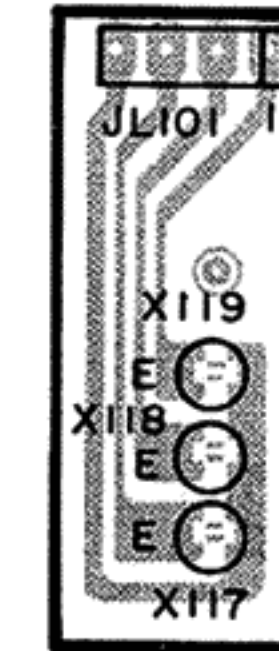
Safety precautions to service personnel.

- (1) ⚠ Safety requirement components in accordance with present safety regulations. These components must only be replaced by original components.
- (2) To comply with present safety regulations, be sure to make leakage-current or resistance measurements before returning the appliance to customer.

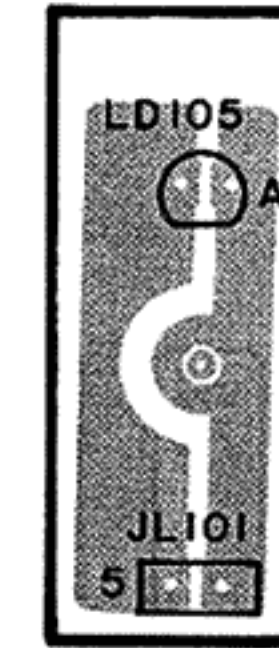
5. PW BOARDS DETAILS (Foil side)



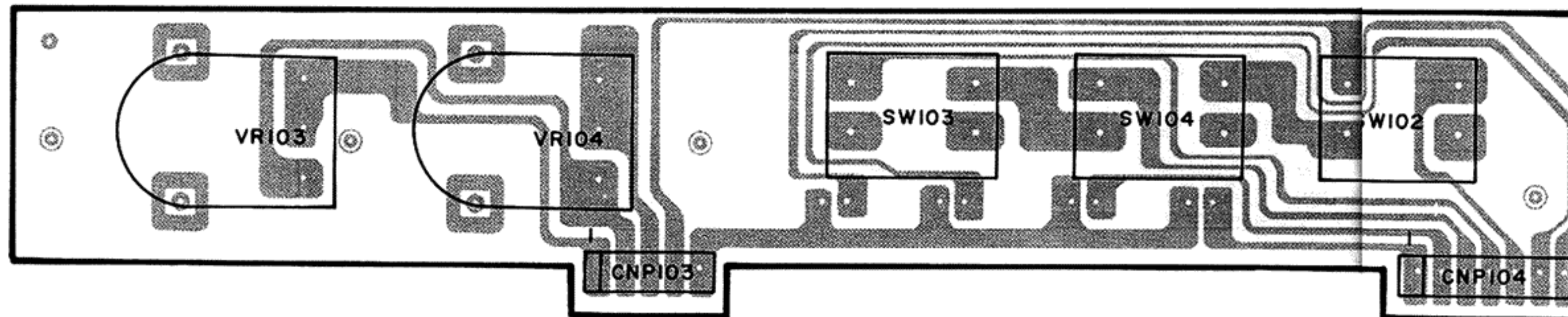
Control PWB PSCZ033COX (AP1)



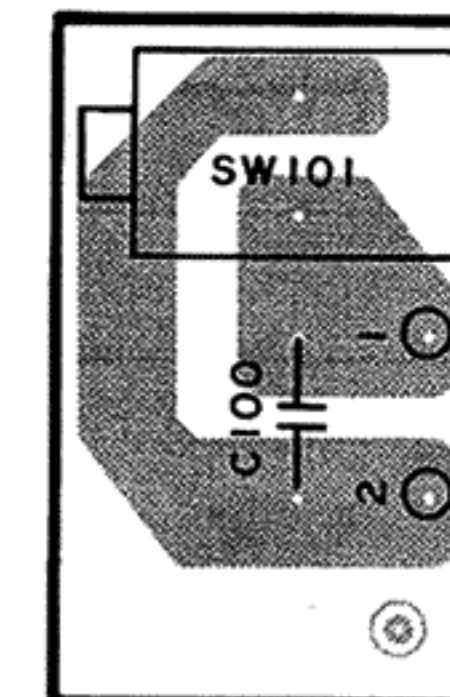
Sensor
PWB
PSZZ232COX
(AP3)



LED PWB
PSZZ233COX
(AP4)

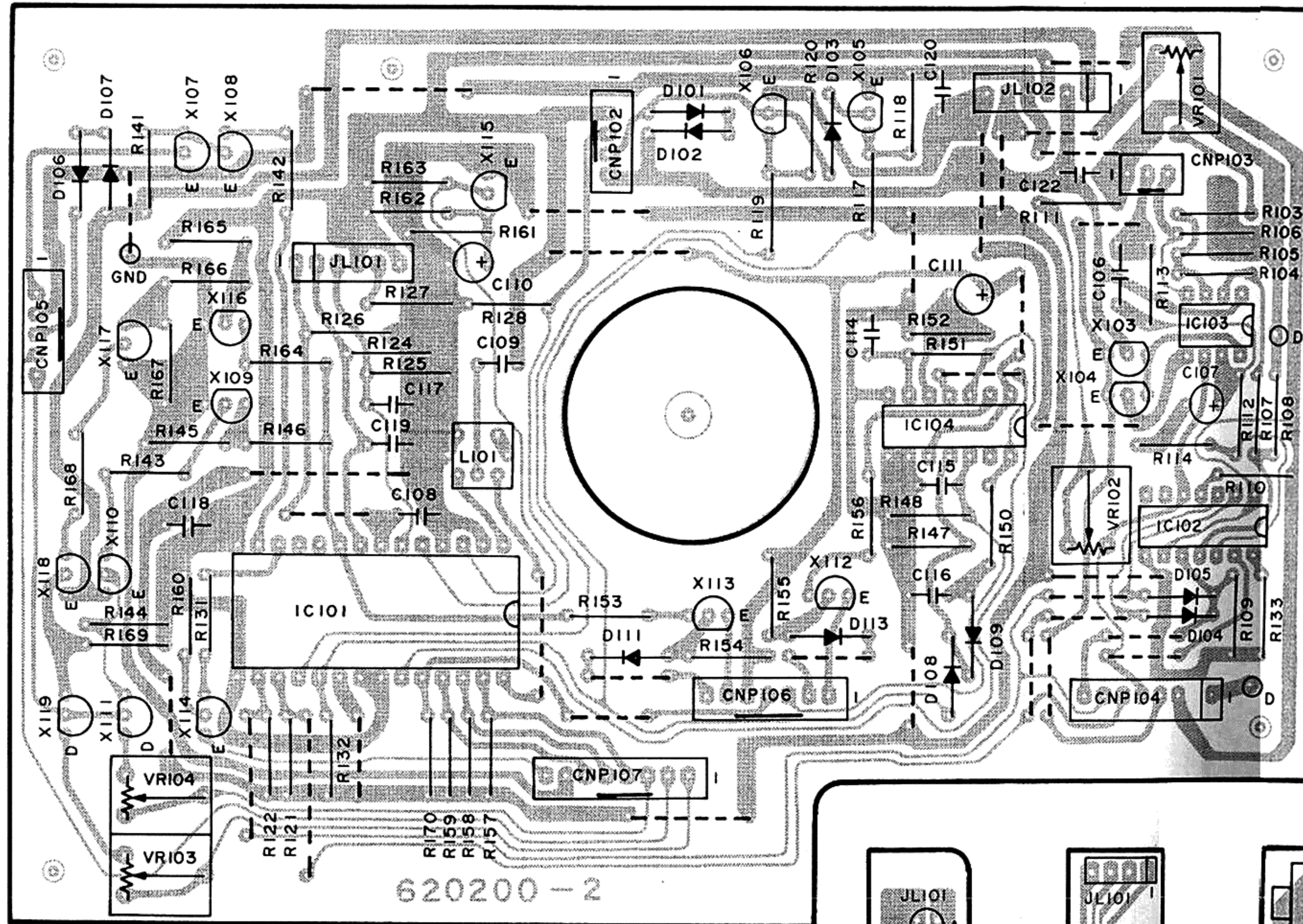


Switch PWB PSSW318COX (AP2)

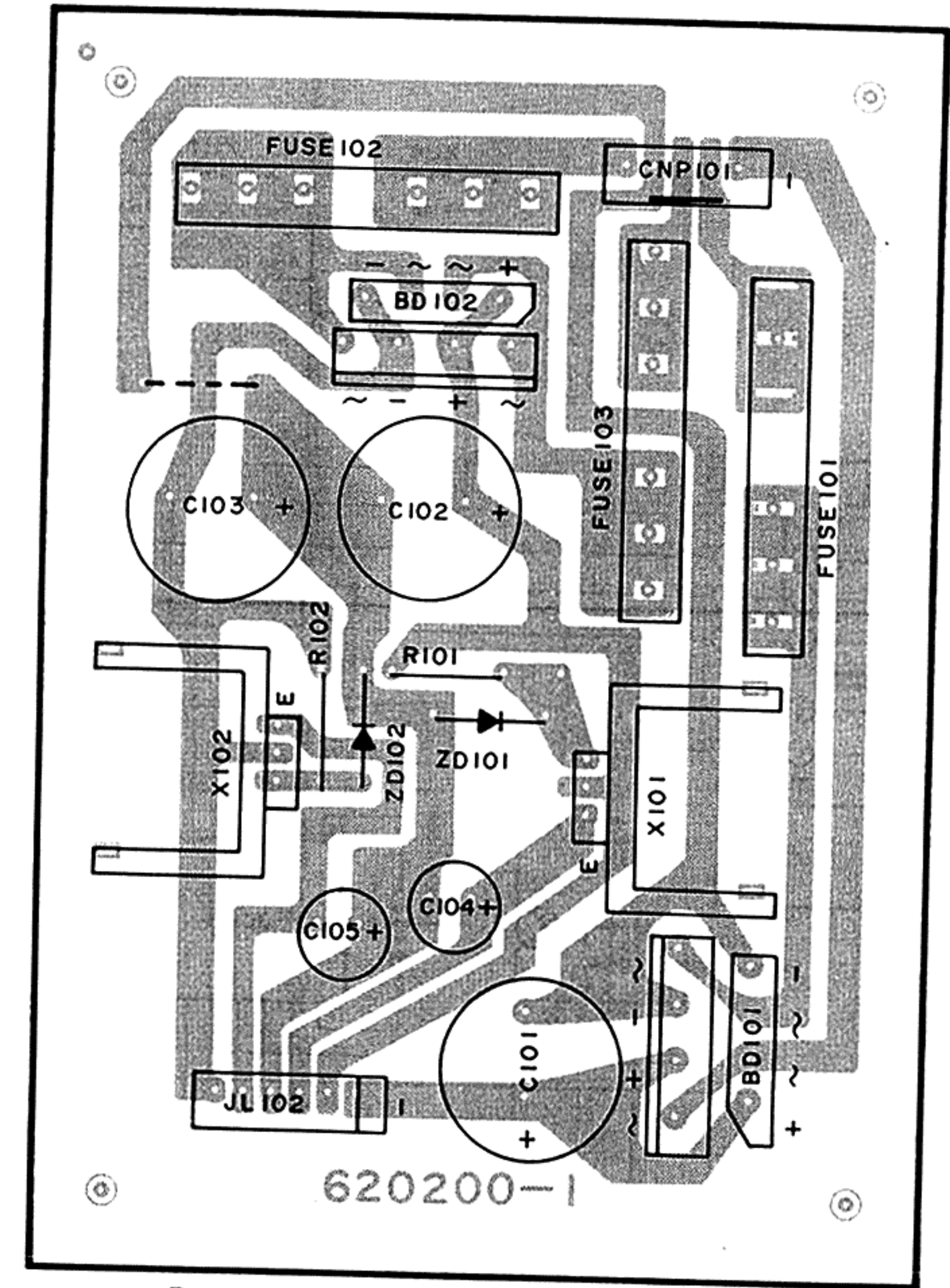


Power SW
PSSW317COX
(AP5)

8. PW BOARD DETAILS (Foil side)

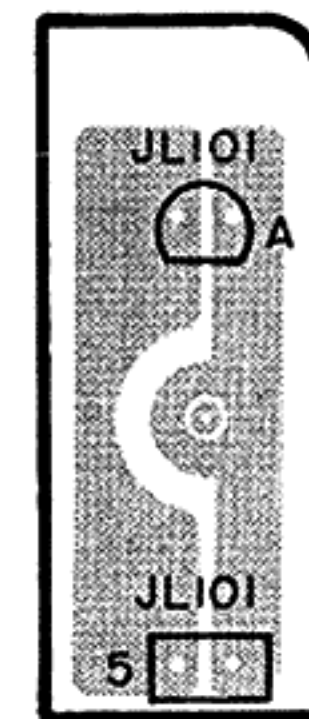


Control PWB PSCZ032COX (AP2)



Power supply PWB PSPW076COX (AP1)

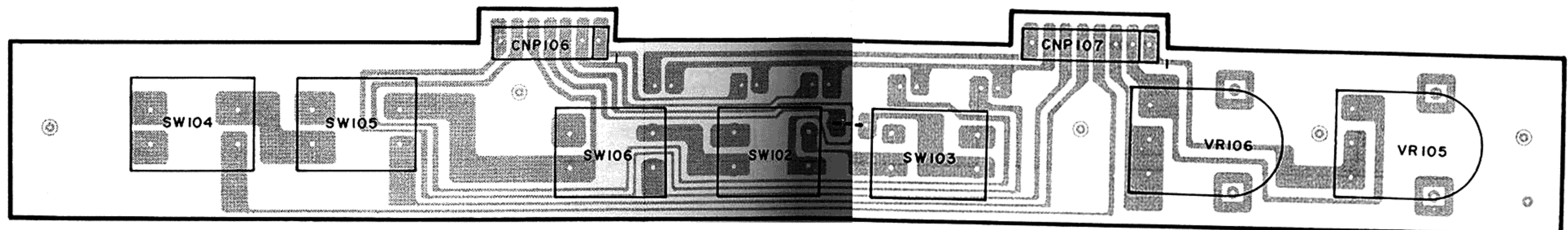
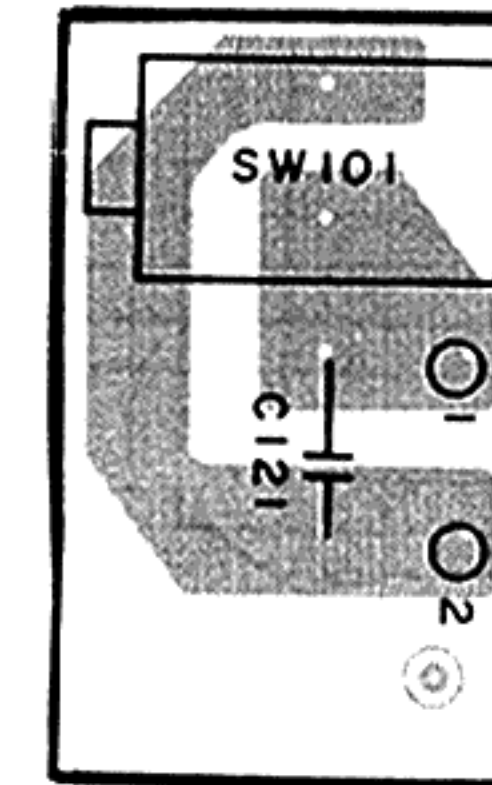
Sensor PWB
PSZZ232COX
(AP4)



LED PWB
PSZZ233COX (AP5)

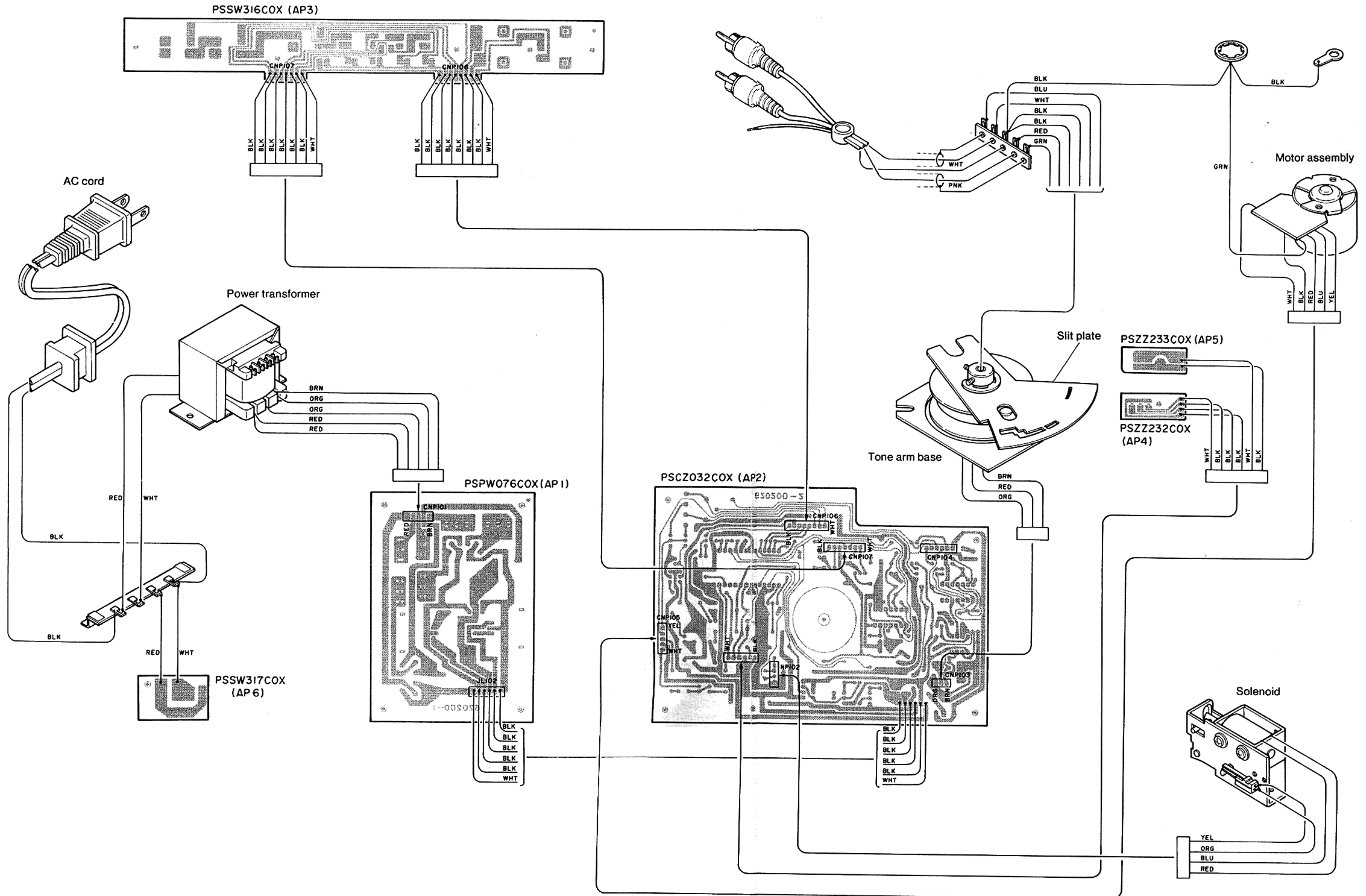


Power SW PWB
PSSW317COX
(AP6)



Switch PWB PSSW316COX (AP3)

9. WIRING DIAGRAM



11. PARTS LIST

AMPL 701*05 (SOLENOID ASSY)

Exploded View No.	Part Code	Description
501	HL533SD001	Angle
502	HW161SJ002	Spring
503	VX322DW001	Lever
504	ZSA112202Z	Solenoid
505	AXSW013GEA	Leaf SW Assy
506	VS217BN002	Spacer

AMPL 701*06 (TONE ARM ASSY)

Exploded View No.	Part Code	Description
601	VX652DM001	Head Shell
602	VX332AM001	Connector
603	VM165DM001	Screw
604	ACZZ279GEA	Arm Wire Kit
615	MM487SM001	Weight
616	VM180SB001	Ring, Counter
617	MM160CC001	IFC Weight

MISCELLANEOUS

Part Code	Description
KTPL601*BX	Owner's Manual
KZ000049BX	Safety Instruction
AVSTBLZ001	Disc Stabilizer
VM186DB001	EP Adaptor

APSCZ033AA (AP1)

Symbol No.	Part Code	Description
IC101	QQPH1001AA	IC, HP1001
IC102	QQ004013A&	IC, 4066
X101	QTD0882XAA	Tr., 2SD882
X102	QTB0772XAA	Tr., 2SB772
X103	QTC0945XJA	Tr., 2SC945(P,Q)
X104	QTC0945XJA	Tr., 2SC945(P,Q)
X105	QTK0336XAC	FET, 2SK336
X106	QTK0336XAC	FET, 2SK336
X107	QTA0733XDA	Tr., 2SA733
X108	QTC0945XJA	Tr., 2SC945(P,Q)
X109	QTA0733XDA	Tr., 2SA733
X110	QTC0945XJA	Tr., 2SC945(P,Q)
X111	QTC0945XJA	Tr., 2SC945(P,Q)
X112	QTD0667AAB	Tr., 2SD667
X113	QTD0667AAB	Tr., 2SD667
X114	QTC0945XJA	Tr., 2SC945(P,Q)
X115	QTC0945XJA	Tr., 2SC945(P,Q)
D101	QDSF14CXXA	Diode, F14C
D102	QDSF14CXXA	Diode, F14C
D103	QDSF14CXXA	Diode, F14C
D104	QDSF14CXXA	Diode, F14C
D105	QDSF14CXXA	Diode, F14C
D106	QDSS1588XI	Diode, 1S1588
D107	QDSS1588XI	Diode, 1S1588
D108	QDSS1588XI	Diode, 1S1588

Exploded View No.	Part Code	Description
D109	QDSS1588XI	Diode, 1S1588
D110	QDSS1588XI	Diode, 1S1588
D111	QDSS1588XI	Diode, 1S1588
D112	QDSS1588XI	Diode, 1S1588
D121	QDSS1VBXXK	Diode, S1VB-10
D122	QDSS1VBXXK	Diode, S1VB-10
D131	QD75R6EB2A	Diode, Zener RD5.6EB2
D132	QD75R6EB2A	Diode, Zener RD5.6EB2
VR101	RPGNB50306	VR, 50k(B)
VR102	RPGNB10307	VR, 1k(B)
L101	TT07QQ001D	Coil, Osc, 400kHz
F101	ZFB10207C	Fuse, 1A
F102	ZFB10207C	Fuse, 1A
F103	ZFB10207C	Fuse, 1A

APSSW318AA (AP2)

Symbol No.	Part Code	Description
VR105	RVNA502B06	VR, 5k, 33
VR106	RVNA502B06	VR, 5k, 45
SW102	SK0101X37A	SW, UP/DOWN
SW103	SK0101X37A	SW, SPEED
SW104	SK0101X37A	SW, SIZE

LD101	QLA2PR2XX3	LED, GL-2PR2
LD102	QLA2PR2XX3	LED, GL-2PR2
LD103	QLA2PR2XX3	LED, GL-2PR2
LD104	QLA2PR2XX3	LED, GL-2PR2

Symbol No.	Part Code	Description
X117	QTP0120AM	Photo Ir., PN120S
X118	QTP0120AM	Photo Ir., PN120S
X119	QTP0120AM	Photo Ir., PN120S

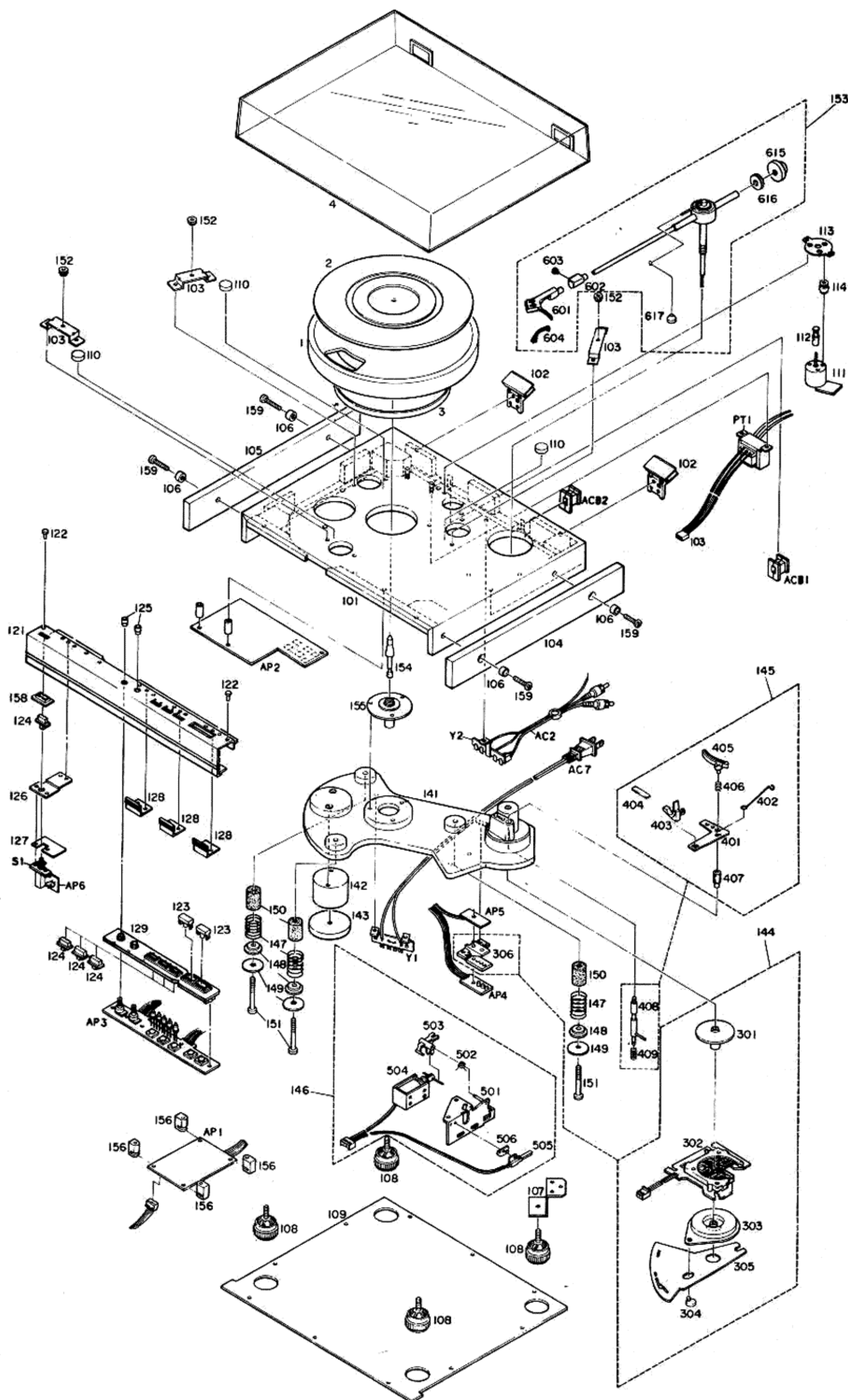
APSZZ233AA (AP4)

Symbol No.	Part Code	Description
LD105	QLAS2110SD	LED, SEL2110S(D)

APSSW317AA (AP6)

Symbol No.	Part Code	Description
S1	SP01AAU23A	SW, Power
C100	CKDU103PGM	Ceramic, 0.01Mf

12. EXPLODED VIEW



ME	APSSW316AA (AP3)		
Expli View	<u>Symbol No.</u>	<u>Part Code</u>	<u>Description</u>
1	VR105	RVNA502B06	VR, 33, 50k
2	VR106	RVNA502B06	VR, 45, 50k
3	S102	SK0101X37A	SW, Size
4	S103	SK0101X37A	SW, Speed
101	S104	SK0101X37A	SW, Start
102	S105	SK0101X37A	SW, Up
103	S106	SK0101X37A	SW, Repeat
104	LD102	QLA2PR2XX3	LED, 17
105	LD103	QLA2PR2XX3	LED, 30
106	LD104	QLA2PR2XX3	LED, 45
107	LD105	QLA2PR2XX3	LED, 33
108	LD106	QLA2PR2XX3	LED, Repeat
109			
110	L101	TT07QQ001D	Coil, Osc, 400kHz
111			
112	APSZZ232AA (AP4)		
113	<u>Symbol No.</u>	<u>Part Code</u>	<u>Description</u>
114			
121	X117	QTP0120AN	Photo Tr., PN120S
122	X118	QTP0120AN	Photo Tr., PN120S
123	X119	QTP0120AN	Photo Tr., PN120S
124			
125	APSAA233AA (AP5)		
126	<u>Symbol No.</u>	<u>Part Code</u>	<u>Description</u>
127			
128	LD105	QLAS2110SD	LED, SEL2110S(D)
129			
141	APSSW317AA (AP6)		
142	<u>Symbol No.</u>	<u>Part Code</u>	<u>Description</u>
143			
144			
145	S1	SP01AAU23A	SW, Power
146	C100	CKDU103PGM	Ceramic, 0.01MF
147			
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